PATENT ABSTRACTS OF JAPAN

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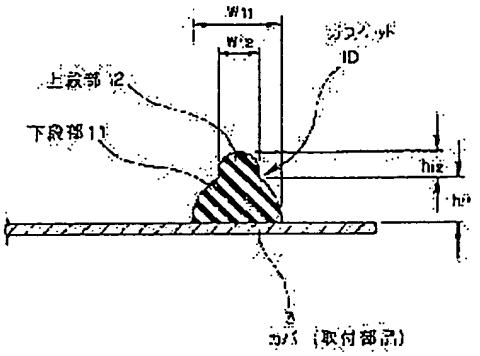
(54) GASKET

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a gasket 10 capable of exercising superior sealability for a long period without generating the warp on a gasket mounting part such as a cover for HDD.
SOLUTION: This gasket 10 used on a seal part of a precision apparatus, an electronic apparatus and the like needing the air-tightness, is molded by a dispenser and has a multistage cross-section. As a molding material of the gasket, a UV cure elastomer is preferably used, and the magnitude of seal bearing pressure can be adjusted by changing a ratio of heights of a lower-stage part 11 and an upper-stage part 12 in the multistage shape. The upper-stage parts 12 may be arranged in parallel.



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CLAIMS

[Claim(s)]
[Claim 1] The gasket which is a gasket (10) used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness is needed, and is characterized by making the cross-section configuration into a multistage configuration while being fabricated by the dispenser.
[Claim 2] The gasket characterized by being the thing you are made to harden after spreading by the dispenser by the gasket (10) concerned consisting of an ultraviolet curing mold elastomer in the gasket of claim 1 by ultraviolet rays.
[Claim 3] The gasket characterized by enabling adjustment of the magnitude of seal planar pressure in the gasket of claims 1 or 2 by changing the height dimension ratio of the lower-berth section (11) and the upper case section (12) in a multistage configuration.
[Claim 4] The gasket characterized by carrying out two or more parallel arrangements of the upper case section (12) fabricated by the top face of the lower-berth section (11) in a multistage configuration in the gasket indicated they to be [any / claim 1 thru/or / of 3].

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention] This invention relates to the gasket which is a kind of a sealing device, and relates to the gasket suitable for being used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness is needed, in more detail.
[0002]
[Description of the Prior Art] The gasket fabricated by the dispenser is known from the former as a gasket used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness, such as a hard disk drive unit (HDD) or a cellular phone, is needed.
[0003] Drawing 5 shows the gasket 1 for HDD top covering as that example, the gasket 1 is formed in the plane-of-composition periphery section of the covering 3 repeated in a case 2, and as shown in drawing 6 , spreading shaping of this gasket 1 is carried out by the dispenser 4 equipped with the regurgitation nozzle 5 at the whole surface of covering 3.
[0004] However, the gasket 1 by the conventional dispenser method is monolayer structure, and since it is fabricated in the shape of [simple] an abbreviation D typeface (the shape of an abbreviation hemicycle) as the cross-section configuration shows drawing 7 , it has following un-arranging.
[0005] That is, if covering 3 is bound tight using the stop screw 6 to a case 2 as shown in drawing 8 , in connection with a gasket 1 carrying out a compression set, the contact width of face w0 to the case 2 of a gasket 1 will become extremely large, and seal planar pressure will become extremely large. Therefore, in connection with this, big reaction force may occur in a gasket 1, and curvature may occur to covering 3 according to this reaction force. It generates in the longitudinal direction of covering 3, and is easy to generate curvature between screw pitches.
[0006] And when curvature occurs to covering 3 in this way, it becomes impossible to already secure required seal planar pressure, and, therefore, trouble will be caused to seal nature. It is severe, and also as for the covering 3 they are [covering] gasket fittings, thickness has become still thinner for lightweight-izing, and HDD-related components also have the demand of the formation of small lightweight, or low-cost-izing in the inclination for rigid reinforcement to also fall especially recently. Therefore, under such a situation, development of the gasket which can demonstrate the outstanding seal nature is called for, without making covering 3 generate curvature.
[0007]
[Problem(s) to be Solved by the Invention] This invention aims at offering the gasket which it continues and can demonstrate the seal nature which did not make gasket fittings, such as covering in HDD, generate curvature, and had and was excellent in view of the above point at a long period of time.
[0008]
[Means for Solving the Problem] In order to attain the above-mentioned purpose, the gasket by claim 1 of this invention is a gasket used for the seal sections, such as a precision mechanical

equipment or electronic equipment for which airtightness is needed, and it is characterized by making the cross-section configuration into a multistage configuration while being fabricated by the dispenser.
[0009] Moreover, in the above-mentioned gasket of claim 1, the gasket concerned consists of an ultraviolet curing mold elastomer, and the gasket by claim 2 of this invention is characterized by being the thing you are made to harden by ultraviolet rays after spreading by the dispenser.
[0010] Moreover, the gasket by claim 3 of this invention is characterized by enabling adjustment of the magnitude of seal planar pressure in the above-mentioned gasket of claims 1 or 2 by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration.
[0011] Furthermore, the gasket by claim 4 of this invention is characterized by carrying out two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration again in the gasket indicated they to be [above-mentioned claim 1 thru/or above-mentioned any of 3].
[0012] If the cross-section configuration of the gasket concerned is made into the multistage configuration like the gasket by claim 1 of this invention equipped with the above-mentioned configuration while the gasket concerned is fabricated by the dispenser Since it is set up smaller than the case of the gasket of the cross-section D typeface which requires for the above-mentioned conventional technique the area which actually contacts a partner side even if it increases the seal planar pressure in a gasket crowning in order to raise seal nature, it becomes possible to suppress small the reaction force generated in the whole gasket.
[0013] If it is suitable as a molding material of the gasket concerned to use an ultraviolet curing mold elastomer as indicated to claim 2, and a gasket is fabricated by the ultraviolet curing mold elastomer in this way, it will become possible after spreading by the dispenser to stiffen a molding material only by irradiating ultraviolet rays.
[0014] Moreover, since adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration in the gasket by claim 3 of this invention equipped with the above-mentioned configuration, it becomes possible to set seal planar pressure as desired magnitude only by changing the height dimension ratio of the lower-berth section and the upper case section.
[0015] Furthermore, since two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration in the gasket by claim 4 of this invention equipped with the above-mentioned configuration are carried out, the inner circumference lateral pressure and periphery lateral pressure of the gasket concerned are independent, or when changing by turns, the upper case section of the gasket crowning by which the parallel arrangement was carried out is separately pushed by the pressure, and carries out elastic deformation to it again. Therefore, it becomes possible to increase the magnitude of seal planar pressure to inside-and-outside each.
[0016] In addition, the following technical matters are included in this application.
[0017] That is, in order to attain the above-mentioned purpose, the gasket of 1 which this application proposes is equipped with the following configurations.
[0018] ** The gasket whose cross section the gasket concerned is fabricated by the dispenser in the gasket a precision mechanical equipment and for electronic equipment which needs airtightness, and is multistage.
** Using an ultraviolet curing mold elastomer, a gasket uses a dispenser, and hardens and fabricates it by ultraviolet rays after spreading. A rubber degree of hardness is JIS. A About 20-60 degrees is suitable, and about 0.5-3mm is suitable for gasket height.
** Adjust seal planar pressure in the above-mentioned ** by changing the height dimension ratio of the upper case section and the lower-berth section.
[0019] If the cross-section configuration of a gasket is made into a multistage configuration as described above, seal planar pressure can be increased and the airtight engine performance can be raised. Furthermore, since there is less area which actually contacts a partner side than the gasket of a simple D mold configuration even if it increases the seal planar pressure of a gasket

crowning in order to raise the airtight engine performance, the whole compressive load can make this small and, therefore, can reduce the curvature by reaction force.
[0020] As other examples, by making the 2nd step into many congruence, planar pressure increases further and an inner circumference or periphery side acts in independent and the direction which ensures airtightness, when a pressure changes by turns, and a gasket crowning is pushed by the pressure and deforms.
[0021] And according to the above-mentioned configuration, it becomes possible to do the following effectiveness so.
[0022] ** Since a miniaturization and high-reliability-ization of electronic equipment are progressing and there is possibility of malfunction by invasion of a foreign matter, or permeation of moisture from the device exterior in recent years, the airtight high performance-ized demand of a gasket is increasing. By suppressing deformation of gasket fittings (covering etc.) also for the reason, increasing the seal planar pressure of a gasket moreover, and raising airtight dependability, invasion of the foreign matter from the device outside and permeation of moisture can be prevented, and a gasket with little possibility of malfunction can be supplied.
[0023] ** As described above, be in the inclination for HDD-related components to also have the formation of small lightweight, and a severe low cost-ized demand, and for thickness to have become still thinner recently for lightweight-izing also as for gasket fittings (covering etc.), therefore for rigid reinforcement to also fall. Reaction force at the time of a seal can be lessened by using the cross-section configuration of a gasket as multistage in the flow of such amelioration (two etc. steps etc.), and narrowing gasket width of face of a contact part with a partner side. Since curvature occurs to covering easily and it becomes impossible to maintain airtightness when the reaction force of a gasket is large, it can consider as the solution means.
[0024] ** Seal planar pressure can be adjusted by fixing the crest height of a gasket and changing the height dimension ratio of the lower-berth section and the upper case section again. This cannot fabricate a configuration with metal mold, either, but a dimension ratio can be easily changed by changing the regurgitation conditions of an ingredient for shaping by the dispenser.
[0025]
[Embodiment of the Invention] The example of this invention is explained according to a drawing below.
[0026] The first example ... Drawing 1 shows the cross section (amputation stump side) of the gasket 10 concerning the first example of this invention.
[0027] By being fabricated by the whole surface of the covering 3 for HDD which is fittings, and being close to the case 2 (referring to drawing 2) which is a phase hand part article, the gasket 10 concerning the example concerned carries out the seal of between covering 3 and a case 2, and is constituted as follows.
[0028] First, spreading shaping of the gasket 10 concerned is carried out by the dispenser at the whole surface of covering 3, and the cross-section configuration is made into the multistage configuration. Namely, specifically While direct spreading shaping of the lower-berth section (it is also called the 1st step part) 11 is carried out on the whole surface of covering 3, by carrying out spreading shaping of the upper case section (it also being called the 2nd step part) 12 in piles, it considers as up-and-down two-step structure on the top face of this lower-berth section 11. The lower-berth section 11 by which spreading shaping is carried out on the whole surface of covering 3 does not contact a case 2, but the upper case section 12 by which spreading shaping is carried out on the top face of the lower-berth section 11 is close to a case 2.
[0029] The cross-section configuration of the lower-berth section 11 is an abbreviation D typeface (abbreviation hemicycle), the cross-section configuration of the upper case section 12 is also made into the abbreviation D typeface (abbreviation hemicycle), and, therefore, the cross-section configuration of the gasket 10 whole is formed in the configuration where D typeface (hemicycle) was piled up up and down. Moreover, while the height dimension h12 of the upper case section 12 is small formed rather than the height dimension h11 of the lower-berth section 11, the width-of-face dimension w12 of the upper case section 12 is small formed rather than the width-of-face dimension w11 of the lower-berth section 11, and therefore, the cross

section is also small formed for the upper case section 12 rather than the lower-berth section 11.

[0030] Moreover, the gasket 10 concerned is fabricated considering the ultraviolet curing mold elastomer as a molding material.

[0031] If the covering 3 which really fabricated the gasket 10 of the above-mentioned configuration is bound tight using the stop screw 6 to a case 2 as shown in drawing 2 , in connection with a gasket 10 carrying out a compression set, the contact width of face w1 to the case 2 of a gasket 10 will increase, but since the upper case section 12 is formed in narrow as compared with the lower-berth section 11, the rate of increase is small as compared with the above-mentioned conventional technique. Therefore, reaction force which this generates in a gasket 10 after bolting can be made small, and it can suppress that curvature therefore occurs to covering 3.

[0032] Moreover, since the gasket 10 concerned is fabricated considering the ultraviolet curing mold elastomer as a molding material, it becomes possible after spreading by the dispenser to stiffen a molding material only by irradiating ultraviolet rays, and, therefore, the hardening process of a gasket 10 can be formed into activity top easy.

[0033] Moreover, in the gasket 10 concerned, adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section 11 and the upper case section 12 in the above-mentioned multistage configuration. If this enlarges the height dimension ratio of the upper limit section 12, without changing the overall height of a gasket 10 as shown in the comparison Fig. and graphical representation of drawing 3 , seal planar pressure will become small. If the height dimension ratio of the upper limit section 12 is made small on the contrary, seal planar pressure can set the seal planar pressure of a gasket 10 as desired magnitude using the relation it is large unrelated only by this changing the height dimension ratio of the lower-berth section 11 and the upper case section 12.

[0034] The second example ... In the first example of the above, although the one upper case section 12 is formed in right above [of the lower limit section 11 in the multistage configuration], as shown in drawing 4 , the upper case section 12 may carry out the parallel arrangement of two or more these. By a diagram, 2 parallel arrangements of the upper case section 12 are carried out, and the groove crevice 13 is formed between the upper case sections 12 on either side.

[0035] and -- if two or more parallel arrangements of the upper case section 12 are carried out in this way -- the time of wearing use of the gasket 10 concerned -- the inner circumference lateral pressure (pressure of the case 2 interior) and periphery lateral pressure (pressure of the case 2 exterior) of the gasket 10 concerned -- independent -- or when changing by turns, the upper case section 12 of gasket 10 crowning by which the parallel arrangement was carried out is pushed on a pressure, respectively, and carries out elastic deformation. Therefore, it becomes possible to increase the magnitude of the seal planar pressure to a case 2 in each inside and outside, and it becomes possible to demonstrate the seal nature which was therefore excellent in each inside and outside.

[0036]

[Effect of the Invention] This invention does the following effectiveness so.

[0037] That is, it is set up smaller than the case of the gasket by which the area which actually contacts a partner side is first applied to the conventional technique even if it increases the seal planar pressure in a gasket crowning in order to raise seal nature since the cross-section configuration of the gasket concerned is made into the multistage configuration while the gasket concerned is fabricated by the dispenser in the gasket by claim 1 of this invention equipped with the above-mentioned configuration. Therefore, reaction force generated in a gasket after bolting can be made small, it can suppress that curvature occurs to covering, and it can continue and the seal nature which was therefore excellent can be demonstrated at a long period of time.

[0038] Moreover, in the gasket by claim 2 of this invention equipped with the above-mentioned configuration, since the gasket concerned consists of an ultraviolet curing mold elastomer and it is made to harden after spreading by the dispenser by ultraviolet rays, it is possible after spreading to stiffen a molding material only by irradiating ultraviolet rays. Therefore, the

hardening process of a gasket can be made easy on an activity.
[0039] Moreover, since adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration in the gasket by claim 3 of this invention equipped with the above-mentioned configuration, the seal planar pressure of a gasket can be set as desired magnitude only by changing the height dimension ratio of the lower-berth section and the upper case section.
[0040] Furthermore, since two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration in the gasket by claim 4 of this invention equipped with the above-mentioned configuration are carried out, the inner circumference lateral pressure and periphery lateral pressure of the gasket concerned are independent, or when changing by turns, the upper case section of the gasket crowning by which the parallel arrangement was carried out is pushed on a pressure, respectively, and carries out elastic deformation again. Therefore, it becomes possible to increase the magnitude of seal planar pressure in each inside and outside, and the seal nature which was therefore excellent in each inside and outside can be demonstrated.

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TECHNICAL FIELD

[Field of the Invention] This invention relates to the gasket which is a kind of a sealing device, and relates to the gasket suitable for being used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness is needed, in more detail.

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PRIOR ART

[Description of the Prior Art] The gasket fabricated by the dispenser is known from the former as a gasket used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness, such as a hard disk drive unit (HDD) or a cellular phone, is needed.
[0003] Drawing 5 shows the gasket 1 for HDD top covering as that example, the gasket 1 is formed in the plane-of-composition periphery section of the covering 3 repeated in a case 2, and as shown in drawing 6 , spreading shaping of this gasket 1 is carried out by the dispenser 4 equipped with the regurgitation nozzle 5 at the whole surface of covering 3.
[0004] However, the gasket 1 by the conventional dispenser method is monolayer structure, and since it is fabricated in the shape of [simple] an abbreviation D typeface (the shape of an abbreviation hemicycle) as the cross-section configuration shows drawing 7 , it has following un-arranging.
[0005] That is, if covering 3 is bound tight using the stop screw 6 to a case 2 as shown in drawing 8 , in connection with a gasket 1 carrying out a compression set, the contact width of face w0 to the case 2 of a gasket 1 will become extremely large, and seal planar pressure will become extremely large. Therefore, in connection with this, big reaction force may occur in a gasket 1, and curvature may occur to covering 3 according to this reaction force. It generates in the longitudinal direction of covering 3, and is easy to generate curvature between screw pitches.
[0006] And when curvature occurs to covering 3 in this way, it becomes impossible to already secure required seal planar pressure, and, therefore, trouble will be caused to seal nature. It is severe, and also as for the covering 3 they are [covering] gasket fittings, thickness has become still thinner for lightweight-izing, and HDD-related components also have the demand of the formation of small lightweight, or low-cost-izing in the inclination for rigid reinforcement to also fall especially recently. Therefore, under such a situation, development of the gasket which can demonstrate the outstanding seal nature is called for, without making covering 3 generate curvature.

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EFFECT OF THE INVENTION

[Effect of the Invention] This invention does the following effectiveness so.
[0037] That is, it is set up smaller than the case of the gasket by which the area which actually contacts a partner side is first applied to the conventional technique even if it increases the seal planar pressure in a gasket crowning in order to raise seal nature since the cross-section configuration of the gasket concerned is made into the multistage configuration while the gasket concerned is fabricated by the dispenser in the gasket by claim 1 of this invention equipped with the above-mentioned configuration. Therefore, reaction force generated in a gasket after bolting can be made small, it can suppress that curvature occurs to covering, and it can continue and the seal nature which was therefore excellent can be demonstrated at a long period of time.
[0038] Moreover, in the gasket by claim 2 of this invention equipped with the above-mentioned configuration, since the gasket concerned consists of an ultraviolet curing mold elastomer and it is made to harden after spreading by the dispenser by ultraviolet rays, it is possible after spreading to stiffen a molding material only by irradiating ultraviolet rays. Therefore, the hardening process of a gasket can be made easy on an activity.
[0039] Moreover, since adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration in the gasket by claim 3 of this invention equipped with the above-mentioned configuration, the seal planar pressure of a gasket can be set as desired magnitude only by changing the height dimension ratio of the lower-berth section and the upper case section.
[0040] Furthermore, since two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration in the gasket by claim 4 of this invention equipped with the above-mentioned configuration are carried out, the inner circumference lateral pressure and periphery lateral pressure of the gasket concerned are independent, or when changing by turns, the upper case section of the gasket crowning by which the parallel arrangement was carried out is pushed on a pressure, respectively, and carries out elastic deformation again. Therefore, it becomes possible to increase the magnitude of seal planar pressure in each inside and outside, and the seal nature which was therefore excellent in each inside and outside can be demonstrated.

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TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention] This invention aims at offering the gasket which it continues and can demonstrate the seal nature which did not make gasket fittings, such as covering in HDD, generate curvature, and had and was excellent in view of the above point at a long period of time.

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MEANS

[Means for Solving the Problem] In order to attain the above-mentioned purpose, the gasket by claim 1 of this invention is a gasket used for the seal sections, such as a precision mechanical equipment or electronic equipment for which airtightness is needed, and it is characterized by making the cross-section configuration into a multistage configuration while being fabricated by the dispenser.
[0009] Moreover, in the above-mentioned gasket of claim 1, the gasket concerned consists of an ultraviolet curing mold elastomer, and the gasket by claim 2 of this invention is characterized by being the thing you are made to harden by ultraviolet rays after spreading by the dispenser.
[0010] Moreover, the gasket by claim 3 of this invention is characterized by enabling adjustment of the magnitude of seal planar pressure in the above-mentioned gasket of claims 1 or 2 by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration.
[0011] Furthermore, the gasket by claim 4 of this invention is characterized by carrying out two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration again in the gasket indicated they to be [above-mentioned claim 1 thru/or above-mentioned any of 3].
[0012] If the cross-section configuration of the gasket concerned is made into the multistage configuration like the gasket by claim 1 of this invention equipped with the above-mentioned configuration while the gasket concerned is fabricated by the dispenser Since it is set up smaller than the case of the gasket of the cross-section D typeface which requires for the above-mentioned conventional technique the area which actually contacts a partner side even if it increases the seal planar pressure in a gasket crowning in order to raise seal nature, it becomes possible to suppress small the reaction force generated in the whole gasket.
[0013] If it is suitable as a molding material of the gasket concerned to use an ultraviolet curing mold elastomer as indicated to claim 2, and a gasket is fabricated by the ultraviolet curing mold elastomer in this way, it will become possible after spreading by the dispenser to stiffen a molding material only by irradiating ultraviolet rays.
[0014] Moreover, since adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section and the upper case section in a multistage configuration in the gasket by claim 3 of this invention equipped with the above-mentioned configuration, it becomes possible to set seal planar pressure as desired magnitude only by changing the height dimension ratio of the lower-berth section and the upper case section.
[0015] Furthermore, since two or more parallel arrangements of the upper case section fabricated by the top face of the lower-berth section in a multistage configuration in the gasket by claim 4 of this invention equipped with the above-mentioned configuration are carried out, the inner circumference lateral pressure and periphery lateral pressure of the gasket concerned are independent, or when changing by turns, the upper case section of the gasket crowning by which the parallel arrangement was carried out is separately pushed by the pressure, and carries out elastic deformation to it again. Therefore, it becomes possible to increase the magnitude of seal planar pressure to inside-and-outside each.

[0016] In addition, the following technical matters are included in this application.
[0017] That is, in order to attain the above-mentioned purpose, the gasket of 1 which this application proposes is equipped with the following configurations.
[0018] ** The gasket whose cross section the gasket concerned is fabricated by the dispenser in the gasket a precision mechanical equipment and for electronic equipment which needs airtightness, and is multistage.
** Using an ultraviolet curing mold elastomer, a gasket uses a dispenser, and hardens and fabricates it by ultraviolet rays after spreading. A rubber degree of hardness is JIS. A About 20-60 degrees is suitable, and about 0.5-3mm is suitable for gasket height.
** Adjust seal planar pressure in the above-mentioned ** by changing the height dimension ratio of the upper case section and the lower-berth section.
[0019] If the cross-section configuration of a gasket is made into a multistage configuration as described above, seal planar pressure can be increased and the airtight engine performance can be raised. Furthermore, since there is less area which actually contacts a partner side than the gasket of a simple D mold configuration even if it increases the seal planar pressure of a gasket crowning in order to raise the airtight engine performance, the whole compressive load can make this small and, therefore, can reduce the curvature by reaction force.
[0020] As other examples, by making the 2nd step into many congruence, planar pressure increases further and an inner circumference or periphery side acts in independent and the direction which ensures airtightness, when a pressure changes by turns, and a gasket crowning is pushed by the pressure and deforms.
[0021] And according to the above-mentioned configuration, it becomes possible to do the following effectiveness so.
[0022] ** Since a miniaturization and high-reliability-ization of electronic equipment are progressing and there is possibility of malfunction by invasion of a foreign matter, or permeation of moisture from the device exterior in recent years, the airtight high performance-ized demand of a gasket is increasing. By suppressing deformation of gasket fittings (covering etc.) also for the reason, increasing the seal planar pressure of a gasket moreover, and raising airtight dependability, invasion of the foreign matter from the device outside and permeation of moisture can be prevented, and a gasket with little possibility of malfunction can be supplied.
[0023] ** As described above, be in the inclination for HDD-related components to also have the formation of small lightweight, and a severe low cost-ized demand, and for thickness to have become still thinner recently for lightweight-izing also as for gasket fittings (covering etc.), therefore for rigid reinforcement to also fall. Reaction force at the time of a seal can be lessened by using the cross-section configuration of a gasket as multistage in the flow of such amelioration (two etc. steps etc.), and narrowing gasket width of face of a contact part with a partner side. Since curvature occurs to covering easily and it becomes impossible to maintain airtightness when the reaction force of a gasket is large, it can consider as the solution means.
[0024] ** Seal planar pressure can be adjusted by fixing the crest height of a gasket and changing the height dimension ratio of the lower-berth section and the upper case section again. This cannot fabricate a configuration with metal mold, either, but a dimension ratio can be easily changed by changing the regurgitation conditions of an ingredient for shaping by the dispenser.
[0025]
[Embodiment of the Invention] The example of this invention is explained according to a drawing below.
[0026] The first example ... Drawing 1 shows the cross section (amputation stump side) of the gasket 10 concerning the first example of this invention.
[0027] By being fabricated by the whole surface of the covering 3 for HDD which is fittings, and being close to the case 2 (referring to drawing 2) which is a phase hand part article, the gasket 10 concerning the example concerned carries out the seal of between covering 3 and a case 2, and is constituted as follows.
[0028] First, spreading shaping of the gasket 10 concerned is carried out by the dispenser at the whole surface of covering 3, and the cross-section configuration is made into the multistage configuration. Namely, specifically While direct spreading shaping of the lower-berth section (it is

also called the 1st step part) 11 is carried out on the whole surface of covering 3, by carrying out spreading shaping of the upper case section (it also being called the 2nd step part) 12 in piles, it considers as up-and-down two-step structure on the top face of this lower-berth section 11. The lower-berth section 11 by which spreading shaping is carried out on the whole surface of covering 3 does not contact a case 2, but the upper case section 12 by which spreading shaping is carried out on the top face of the lower-berth section 11 is close to a case 2.

[0029] The cross-section configuration of the lower-berth section 11 is an abbreviation D typeface (abbreviation hemicycle), the cross-section configuration of the upper case section 12 is also made into the abbreviation D typeface (abbreviation hemicycle), and, therefore, the cross-section configuration of the gasket 10 whole is formed in the configuration where D typeface (hemicycle) was piled up up and down. Moreover, while the height dimension h12 of the upper case section 12 is small formed rather than the height dimension h11 of the lower-berth section 11, the width-of-face dimension w12 of the upper case section 12 is small formed rather than the width-of-face dimension w11 of the lower-berth section 11, and therefore, the cross section is also small formed for the upper case section 12 rather than the lower-berth section 11.

[0030] Moreover, the gasket 10 concerned is fabricated considering the ultraviolet curing mold elastomer as a molding material.

[0031] If the covering 3 which really fabricated the gasket 10 of the above-mentioned configuration is bound tight using the stop screw 6 to a case 2 as shown in drawing 2 , in connection with a gasket 10 carrying out a compression set, the contact width of face w1 to the case 2 of a gasket 10 will increase, but since the upper case section 12 is formed in narrow as compared with the lower-berth section 11, the rate of increase is small as compared with the above-mentioned conventional technique. Therefore, reaction force which this generates in a gasket 10 after bolting can be made small, and it can suppress that curvature therefore occurs to covering 3.

[0032] Moreover, since the gasket 10 concerned is fabricated considering the ultraviolet curing mold elastomer as a molding material, it becomes possible after spreading by the dispenser to stiffen a molding material only by irradiating ultraviolet rays, and, therefore, the hardening process of a gasket 10 can be formed into activity top easy.

[0033] Moreover, in the gasket 10 concerned, adjustment of the magnitude of seal planar pressure is enabled by changing the height dimension ratio of the lower-berth section 11 and the upper case section 12 in the above-mentioned multistage configuration. If this enlarges the height dimension ratio of the upper limit section 12, without changing the overall height of a gasket 10 as shown in the comparison Fig. and graphical representation of drawing 3 , seal planar pressure will become small. If the height dimension ratio of the upper limit section 12 is made small on the contrary, seal planar pressure can set the seal planar pressure of a gasket 10 as desired magnitude using the relation it is large unrelated only by this changing the height dimension ratio of the lower-berth section 11 and the upper case section 12.

[0034] The second example ... In the first example of the above, although the one upper case section 12 is formed in right above [of the lower limit section 11 in the multistage configuration], as shown in drawing 4 , the upper case section 12 may carry out the parallel arrangement of two or more these. By a diagram, 2 parallel arrangements of the upper case section 12 are carried out, and the groove crevice 13 is formed between the upper case sections 12 on either side.

[0035] and -- if two or more parallel arrangements of the upper case section 12 are carried out in this way -- the time of wearing use of the gasket 10 concerned -- the inner circumference lateral pressure (pressure of the case 2 interior) and periphery lateral pressure (pressure of the case 2 exterior) of the gasket 10 concerned -- independent -- or when changing by turns, the upper case section 12 of gasket 10 crowning by which the parallel arrangement was carried out is pushed on a pressure, respectively, and carries out elastic deformation. Therefore, it becomes possible to increase the magnitude of the seal planar pressure to a case 2 in each inside and outside, and it becomes possible to demonstrate the seal nature which was therefore excellent

in each inside and outside.

[Translation done.]

* NOTICES *

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The sectional view of the gasket concerning the first example of this invention
[Drawing 2] The sectional view in the condition of having bound this gasket tight between covering and a case
[Drawing 3] (A) The comparison Fig. at the time of changing the height dimension ratio [in / it reaches and / in (B) / a gasket multistage configuration] of the lower-berth section and the upper case section and (C) are the graphical representation showing the change condition of the seal planar pressure of the gasket shown in (A) and (B).
[Drawing 4] The sectional view of the gasket concerning the second example of this invention
[Drawing 5] The perspective view of covering for HDD, and a case
[Drawing 6] The explanatory view showing the gasket forming cycle by the dispenser
[Drawing 7] The sectional view of the gasket concerning the conventional example
[Drawing 8] The sectional view in the condition of having bound this gasket tight between covering and a case
[Description of Notations]
1 Ten Gasket
2 Case (Phase Hand Part Article)
3 Covering (Fittings)
4 Dispenser
5 Regurgitation Nozzle
11 Lower-Berth Section
12 Upper Case Section
13 Crevice

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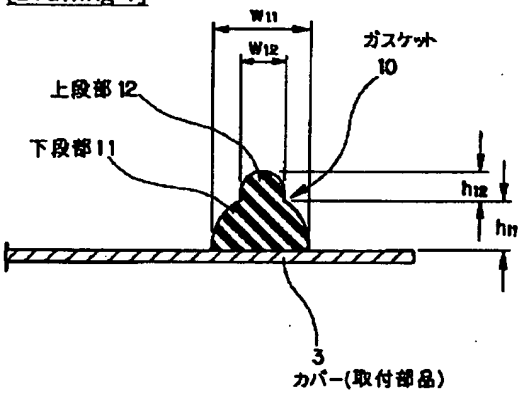
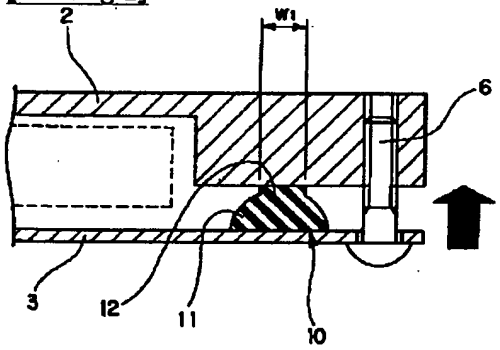
DRAWINGS

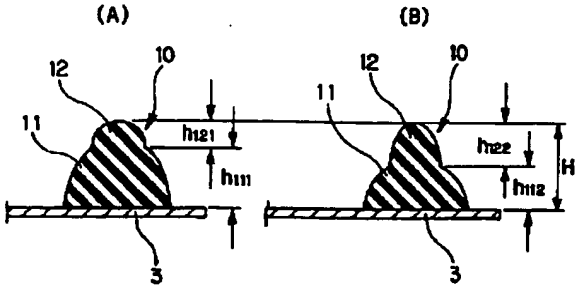
[Drawing 1]

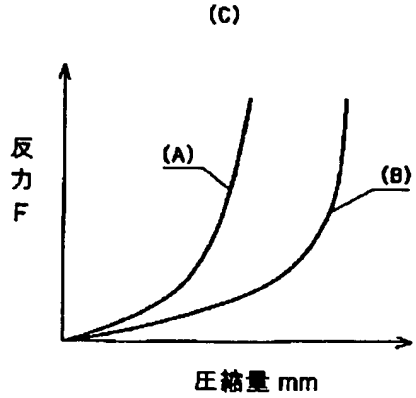


[Drawing 2]

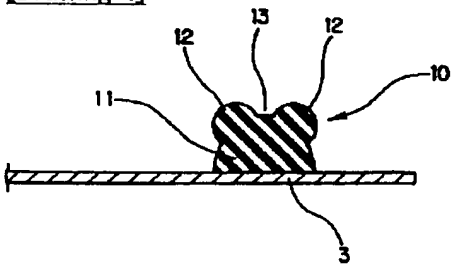


[Drawing 3]

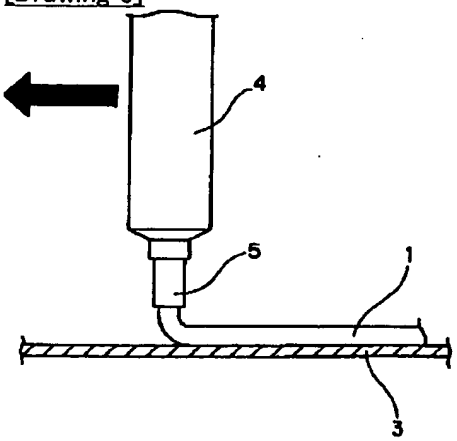




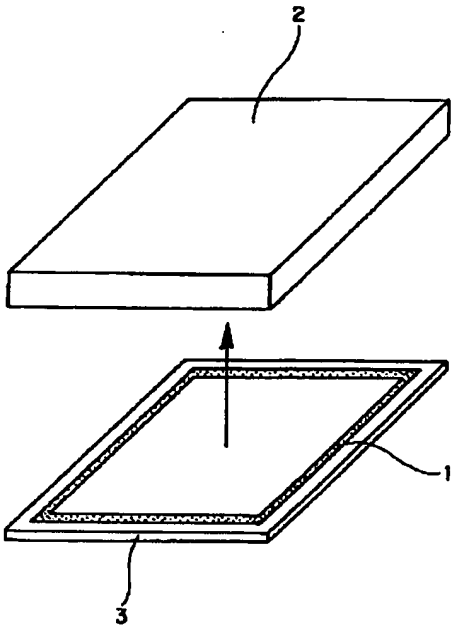
[Drawing 4]



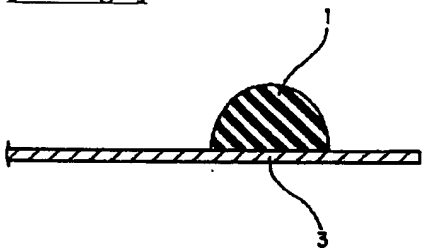
[Drawing 6]



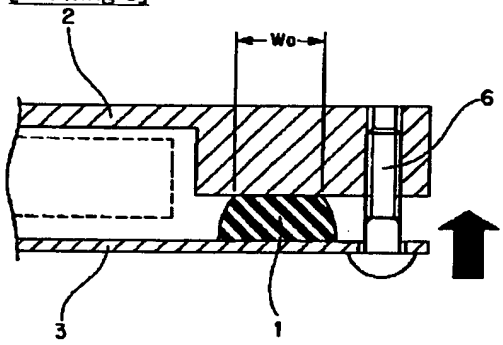
[Drawing 5]



[Drawing 7]



[Drawing 8]



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